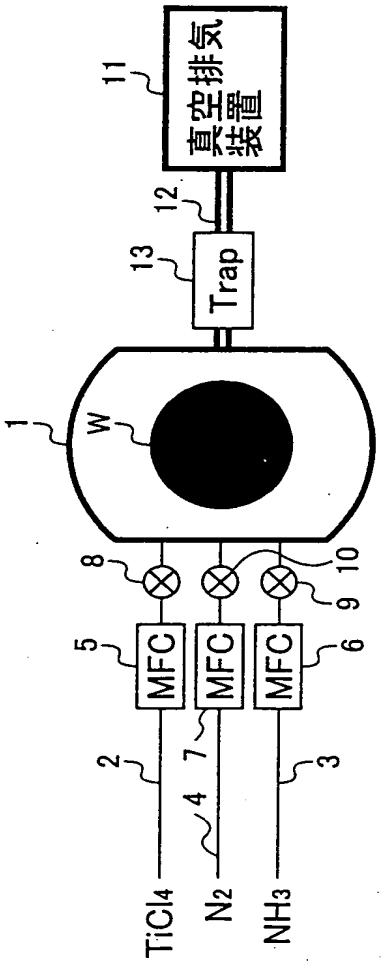
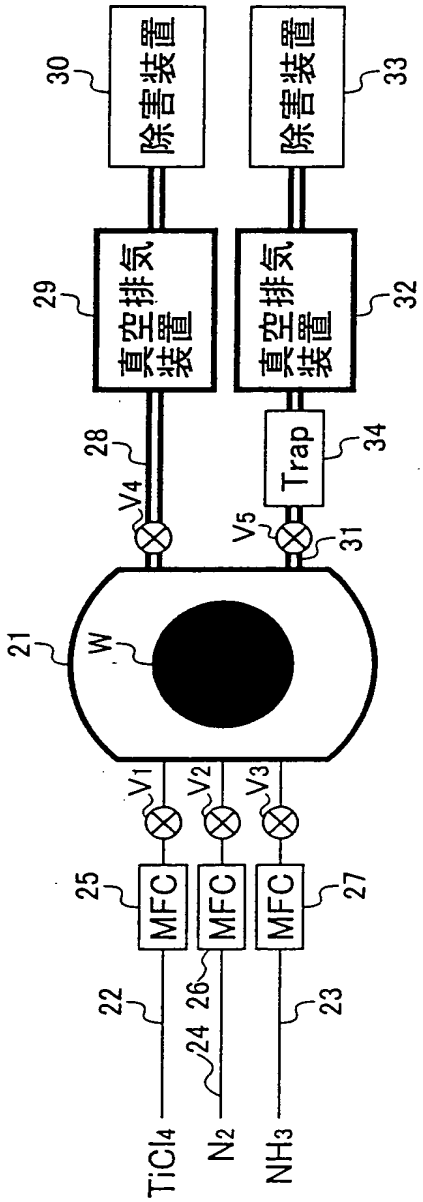
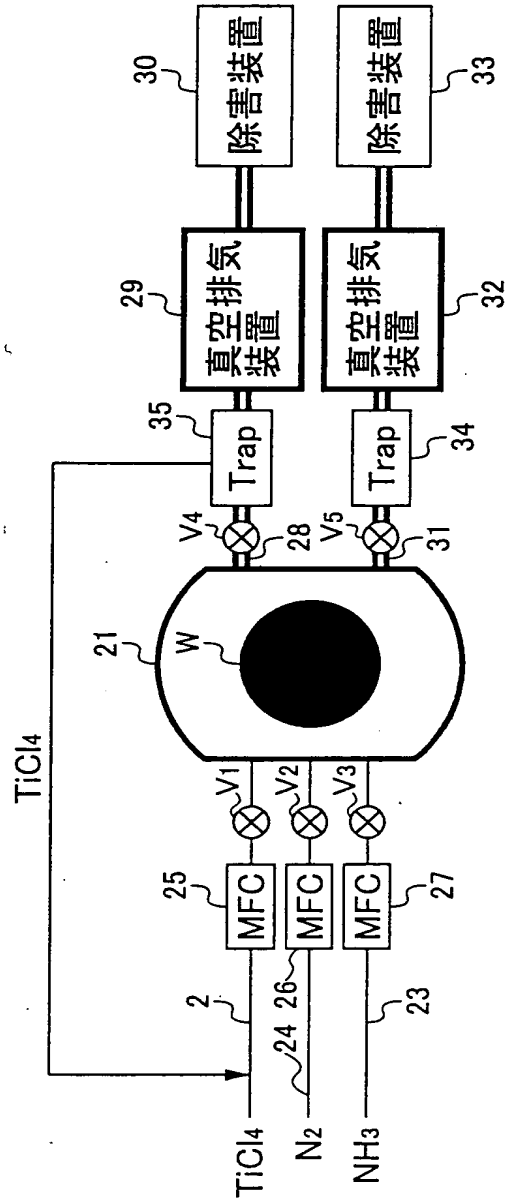
【図1】



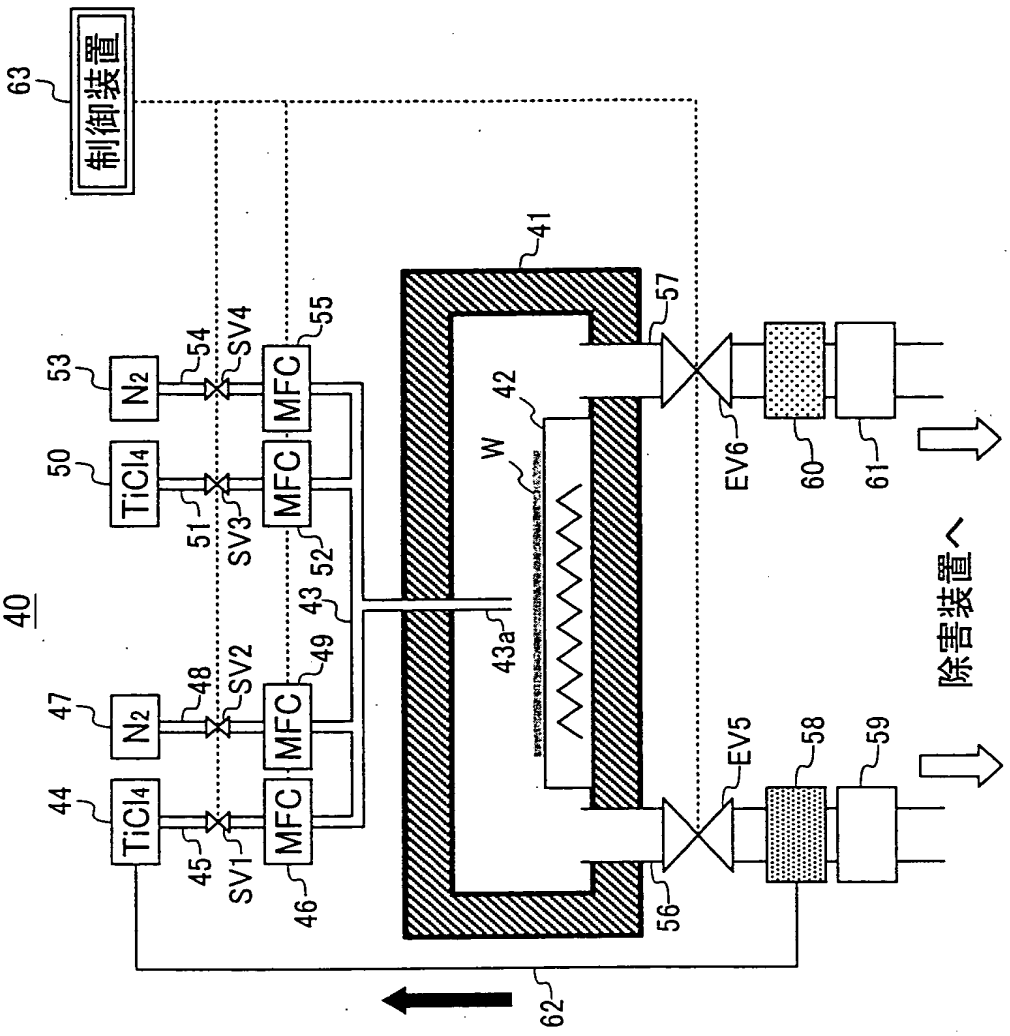
【図2】


除害装置
30
除害装置
33
真空排気装置
29
真空排気装置
32
28
V4
Trap
34
V5
31
21
W
V1
V2
V3
MFC
25
MFC
MFC
27
22
26
24
23
TiCl4
N2
NH3

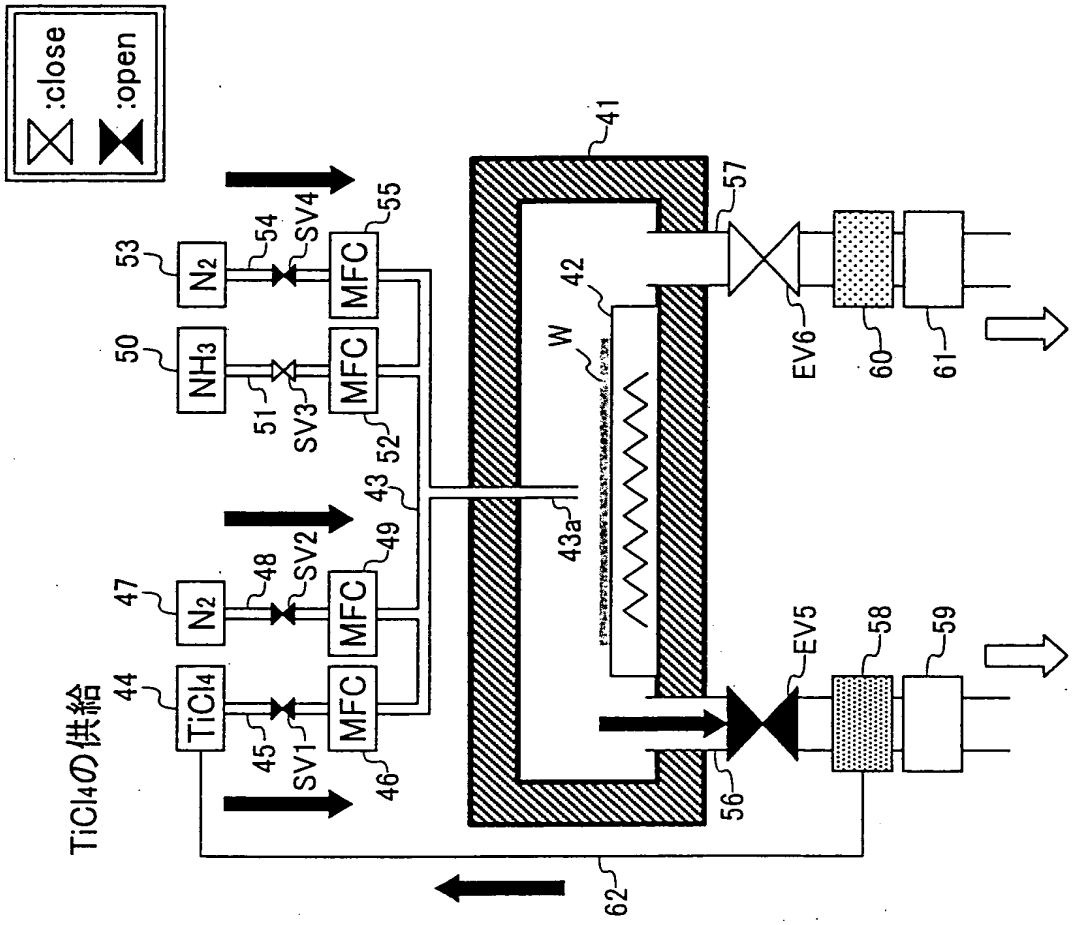
【図3】


30
除害装置
33
除害装置
29
真空排気装置
32
真空排気装置
35
Trap
34
Trap
V4
28
V5
31
21
W
TiCl4
V1
V2
V3
25
MFC
MFC
MFC
27
2
26
24
23
TiCl4
N2
NH3

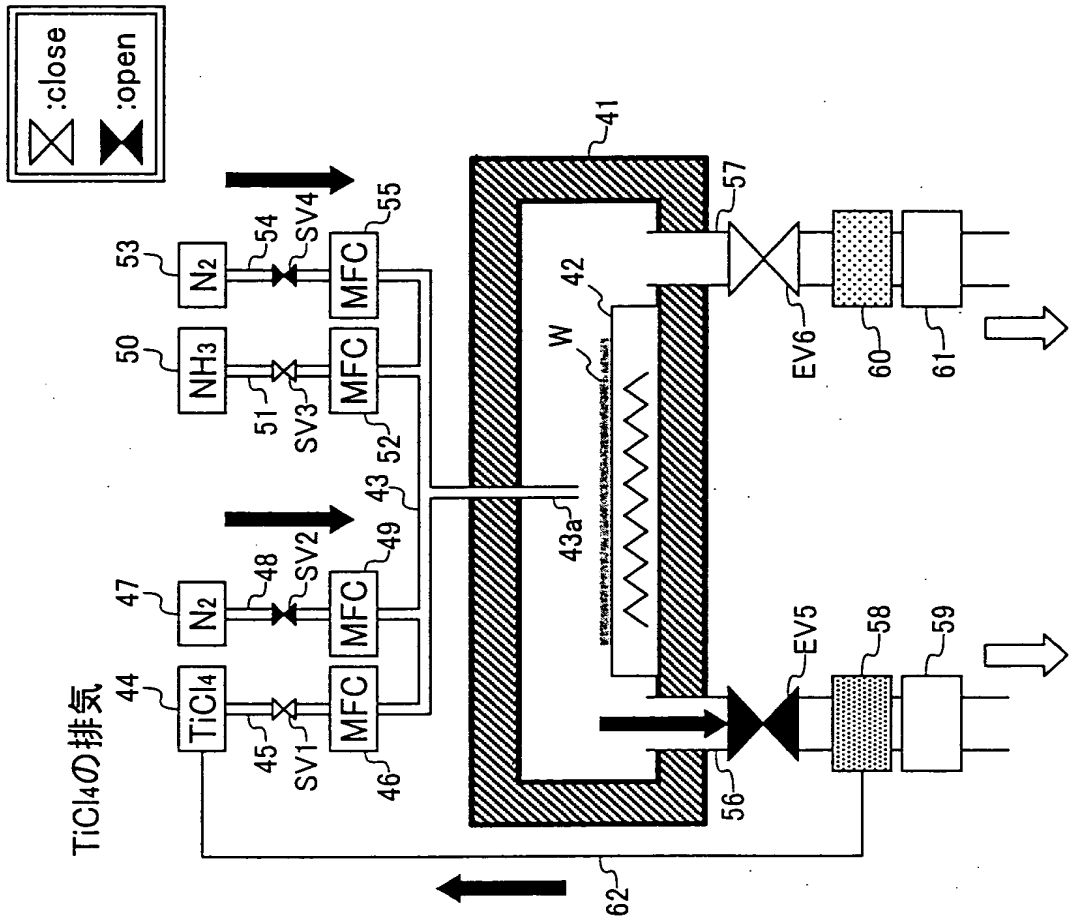
【図4】


63
制御装置
40
41
42
W
43
43a
44
TiCl4
45
SV1
46
MFC
47
N2
48
SV2
49
MFC
50
TiCl4
51
SV3
52
MFC
53
N2
54
SV4
55
MFC
56
57
EV5
58
59
EV6
60
61
除害装置へ
62

【図5】


:close
:open
TiCl4の供給
TiCl4
N2
NH3
MFC
SV1
SV2
SV3
SV4
EV5
EV6
W
41
42
43
43a
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62

【図6】


:close
:open
TiCl4の排気
TiCl4
N2
NH3
N2
MFC
MFC
MFC
MFC
SV1
SV2
SV3
SV4
EV5
EV6
W
41
42
43
43a
44
45
46
47
48
49
50
51
52
53
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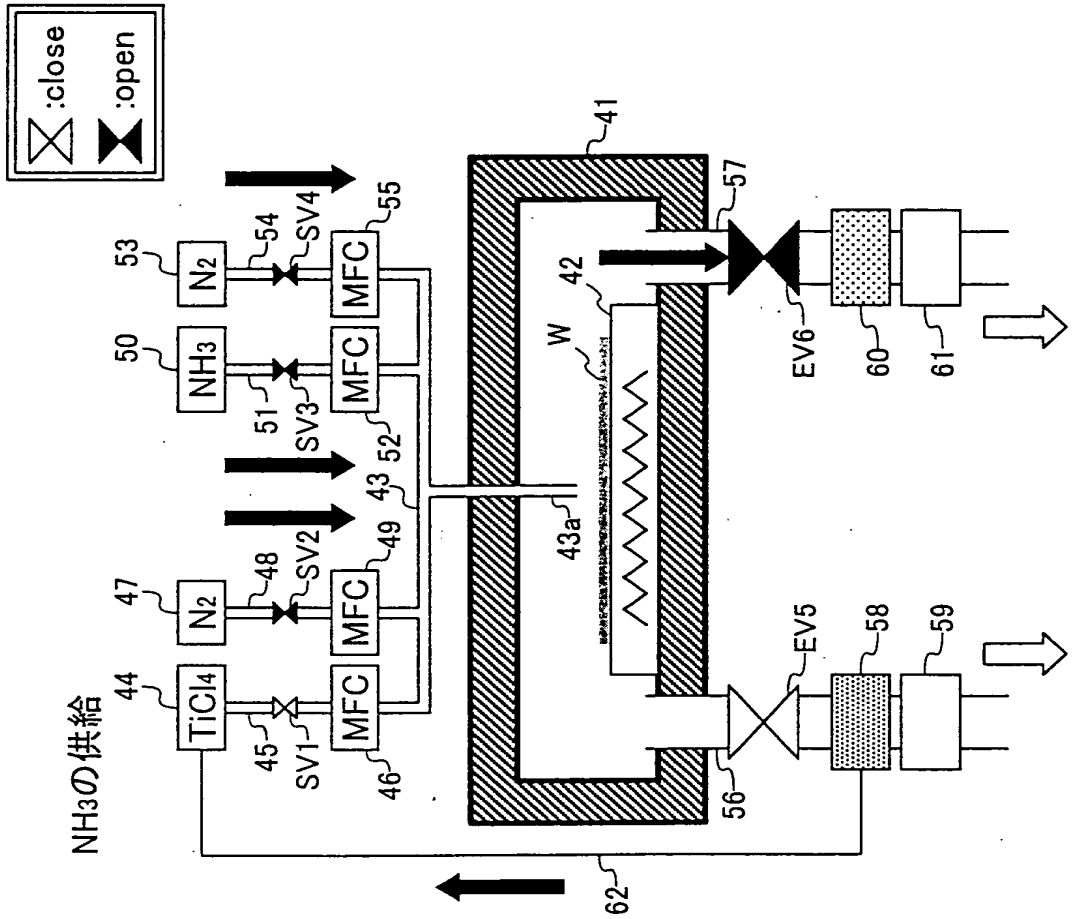
55
56
57
58
59
60
61
62

【図7】


:close
:open
NH3の供給
TiCl4
N2
NH3
MFC
SV1
SV2
SV3
SV4
EV5
EV6
W
41
42
43
43a
44
45
46
47
48
49
50
51
52
53
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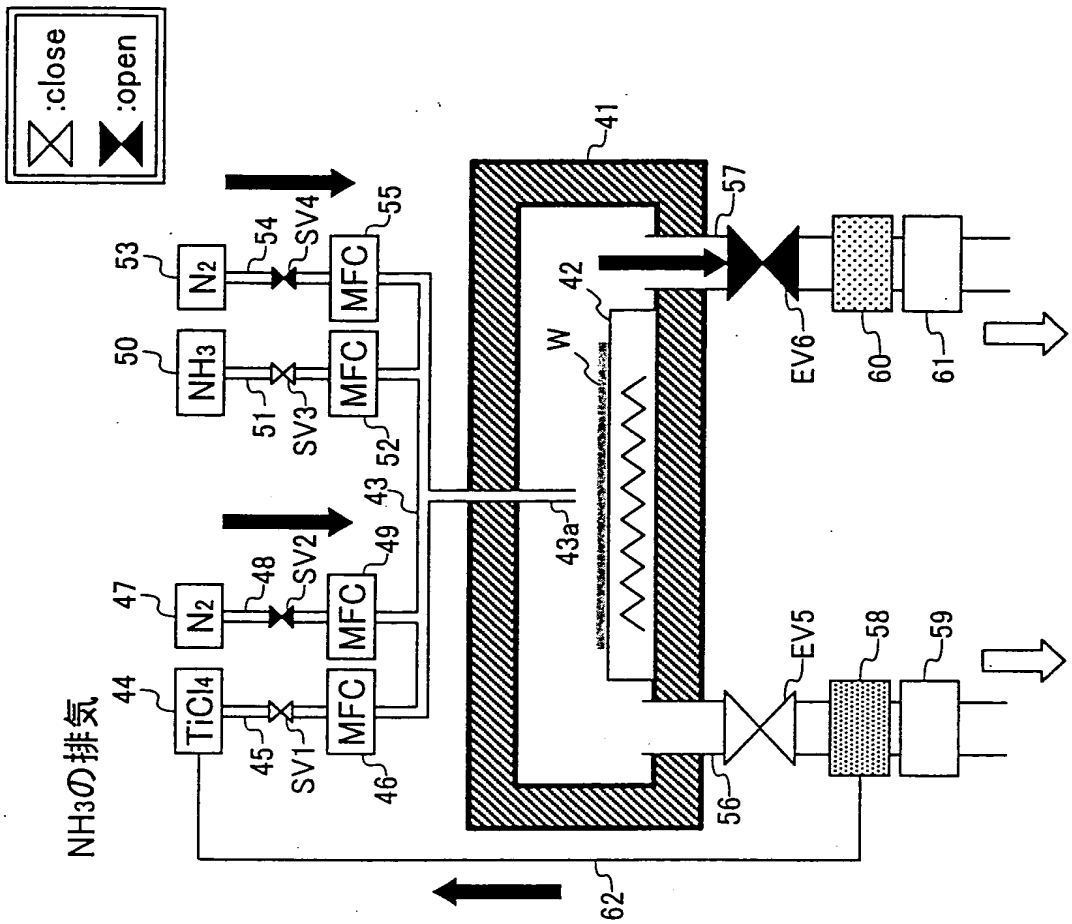
59
60
61
62

【図8】


:close
:open
NH3の排気
TiCl4
N2
NH3
MFC
SV1
SV2
SV3
SV4
EV5
EV6
W
41
42
43
43a
44
45
46
47
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49
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51
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53
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57
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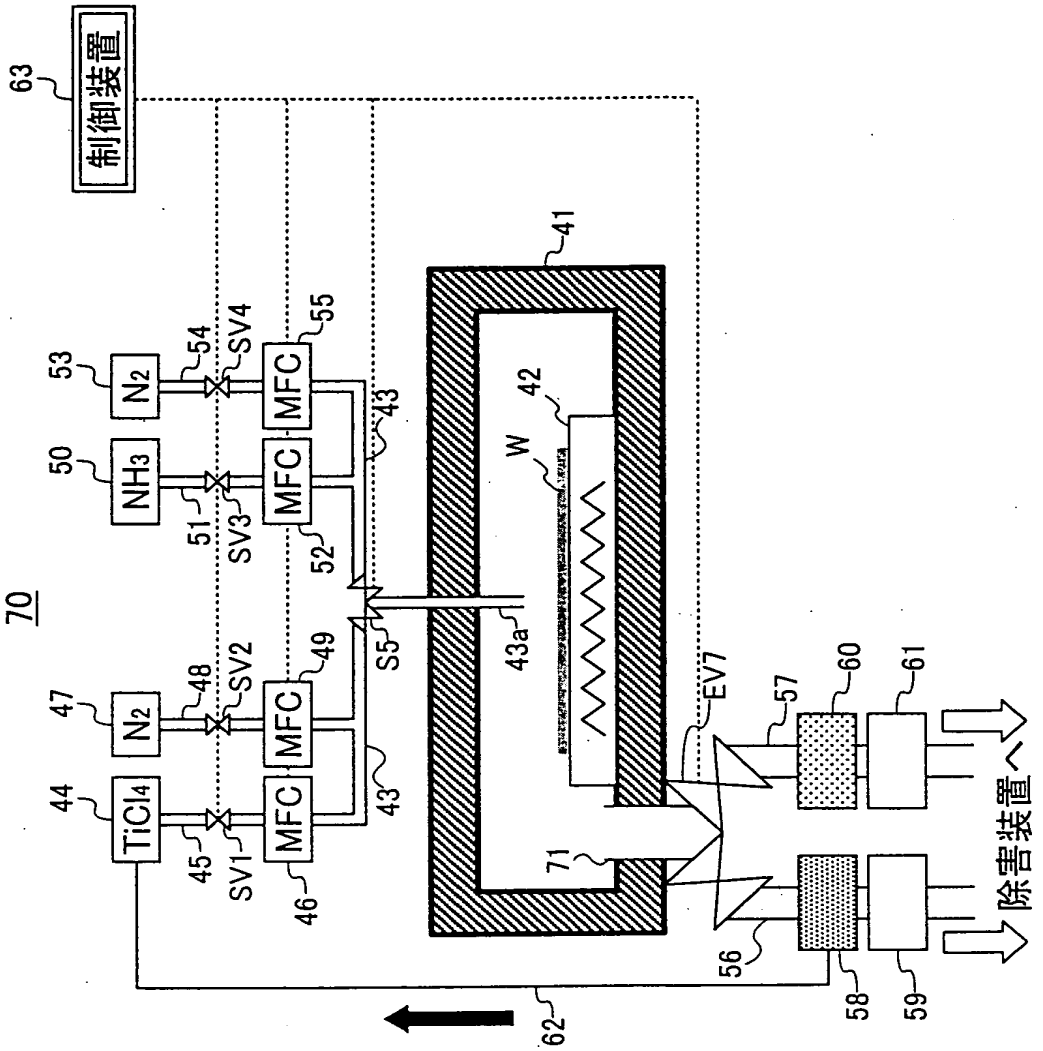
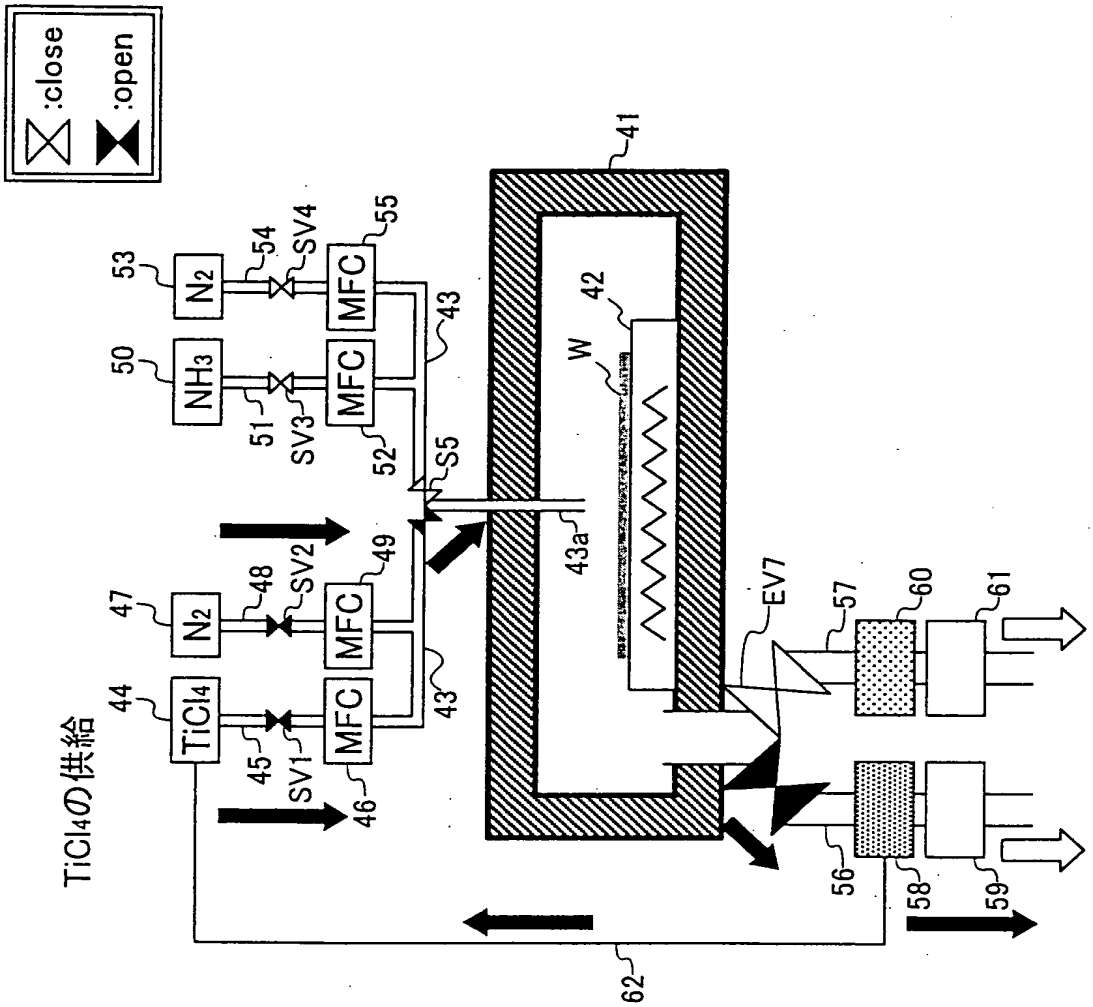
59
60
61
62

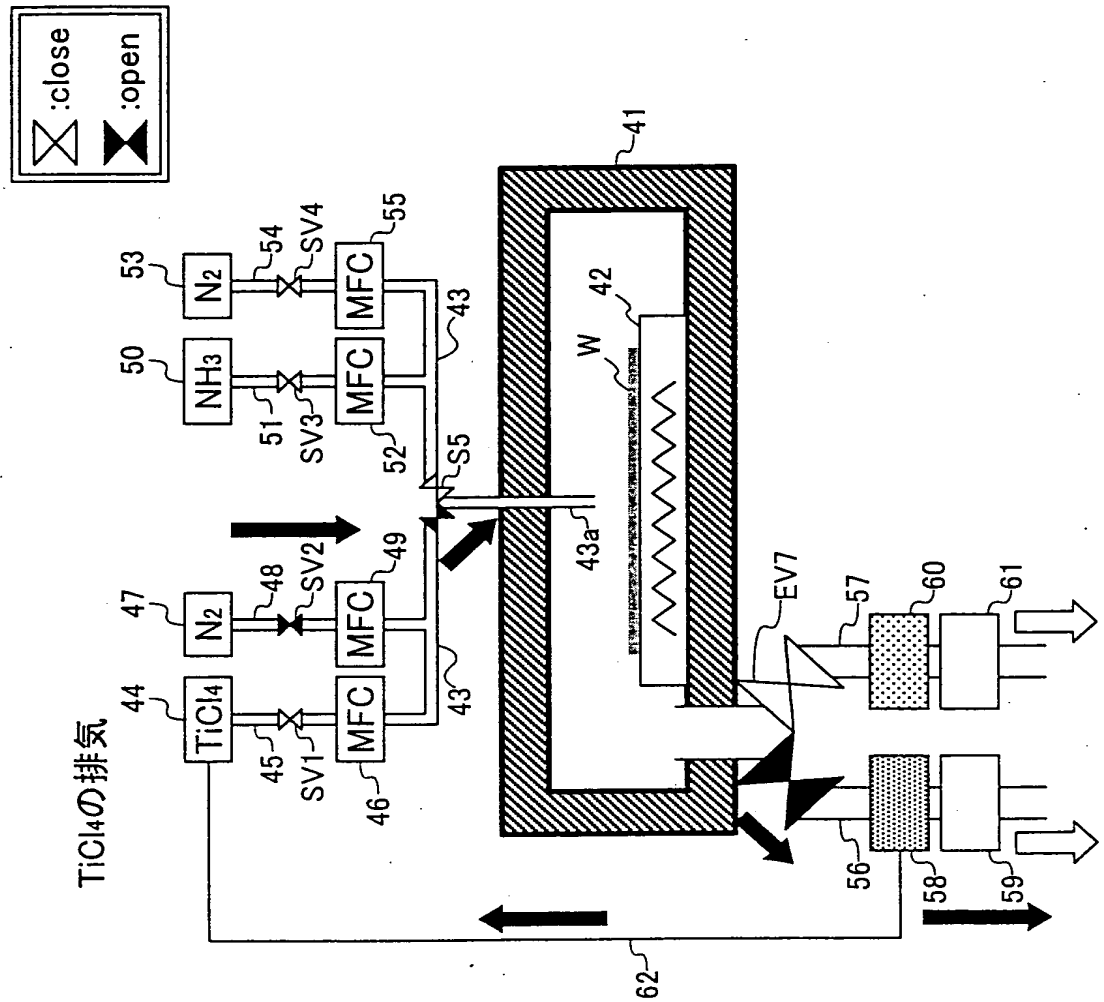
【図9】


63
制御装置
70
41
42
W
43a
71
44
TiCl4
45
SV1
46
MFC
47
N2
48
SV2
49
MFC
50
NH3
51
SV3
52
MFC
53
N2
54
SV4
55
MFC
43
S5
EV7
56
57
58
59
60
61
62
除害装置へ

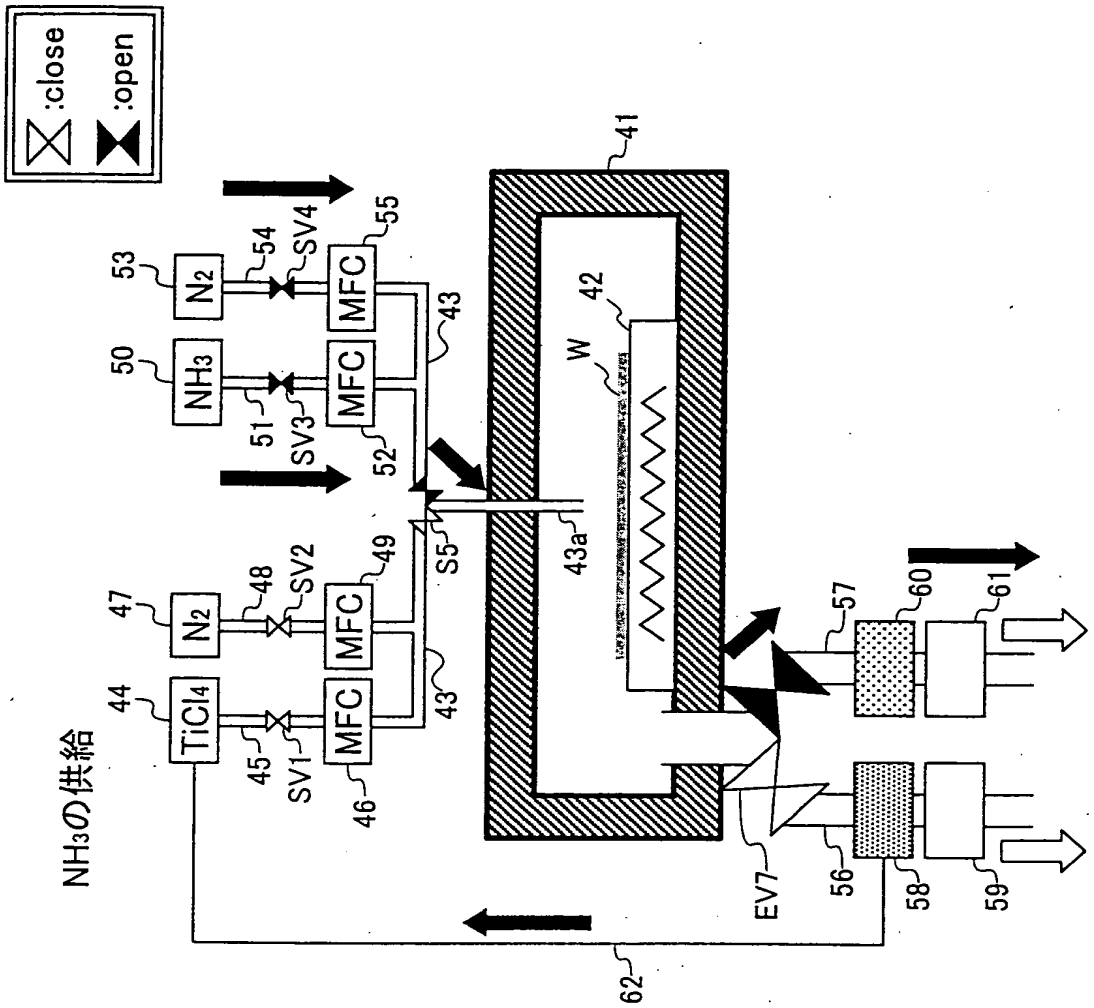
【図10】


:close
:open
TiCl4の供給
TiCl4
N2
NH3
MFC
SV1
SV2
SV3
SV4
S5
EV7
W
41
42
43
43a
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62

【図11】


:close
:open
TiCl4の排気
44
TiCl4
45
SV1
MFC
46
47
N2
48
SV2
MFC
49
43
50
NH3
51
SV3
MFC
52
53
N2
54
SV4
MFC
55
S5
43a
41
42
W
EV7
57
60
61
56
58
59
62

【図12】


:close
:open
NH3の供給
TiCl4
N2
NH3
MFC
SV1
SV2
SV3
SV4
S5
W
41
42
43
43a
44
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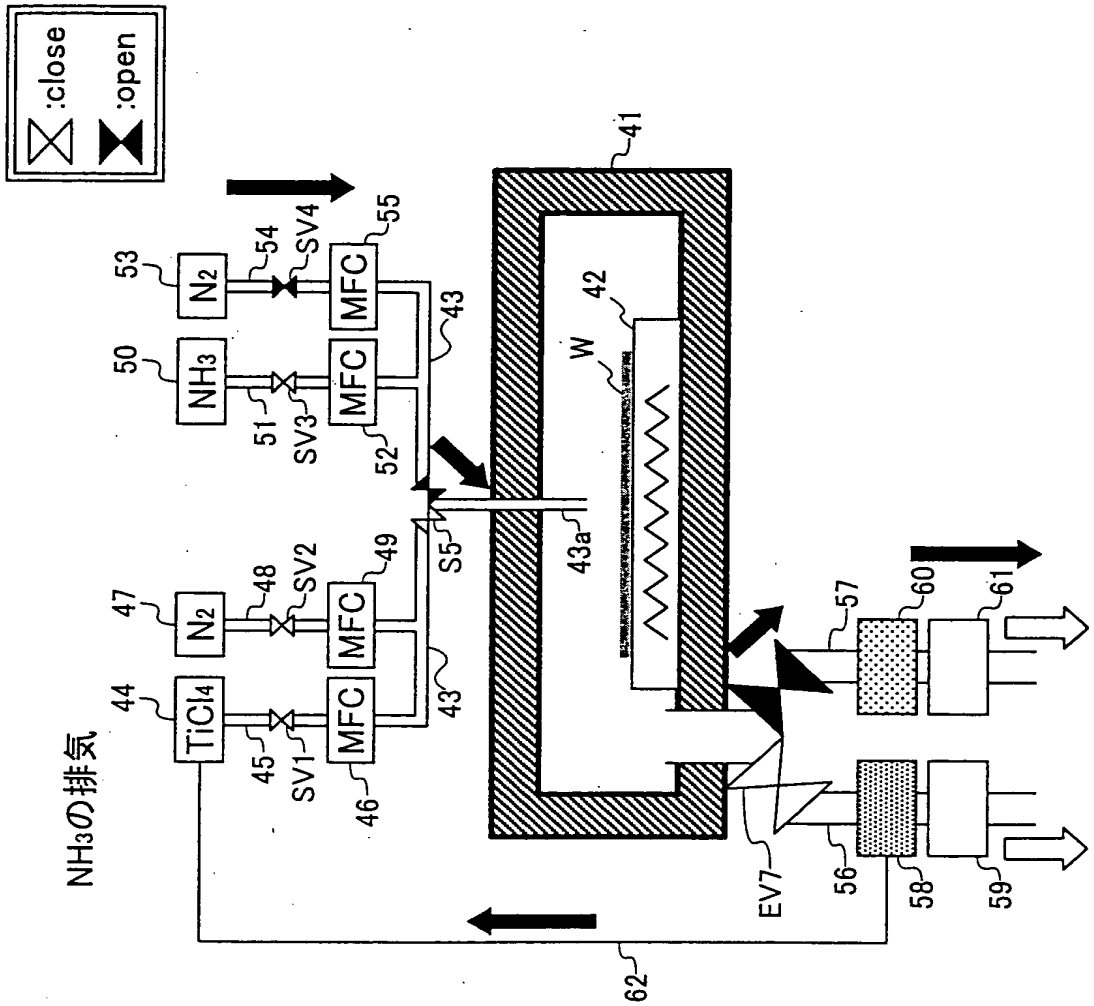
62
EV7

【図13】


:close
:open
NH3の排気
TiCl4
N2
NH3
MFC
SV1
SV2
SV3
SV4
S5
W
41
42
43
43a
44
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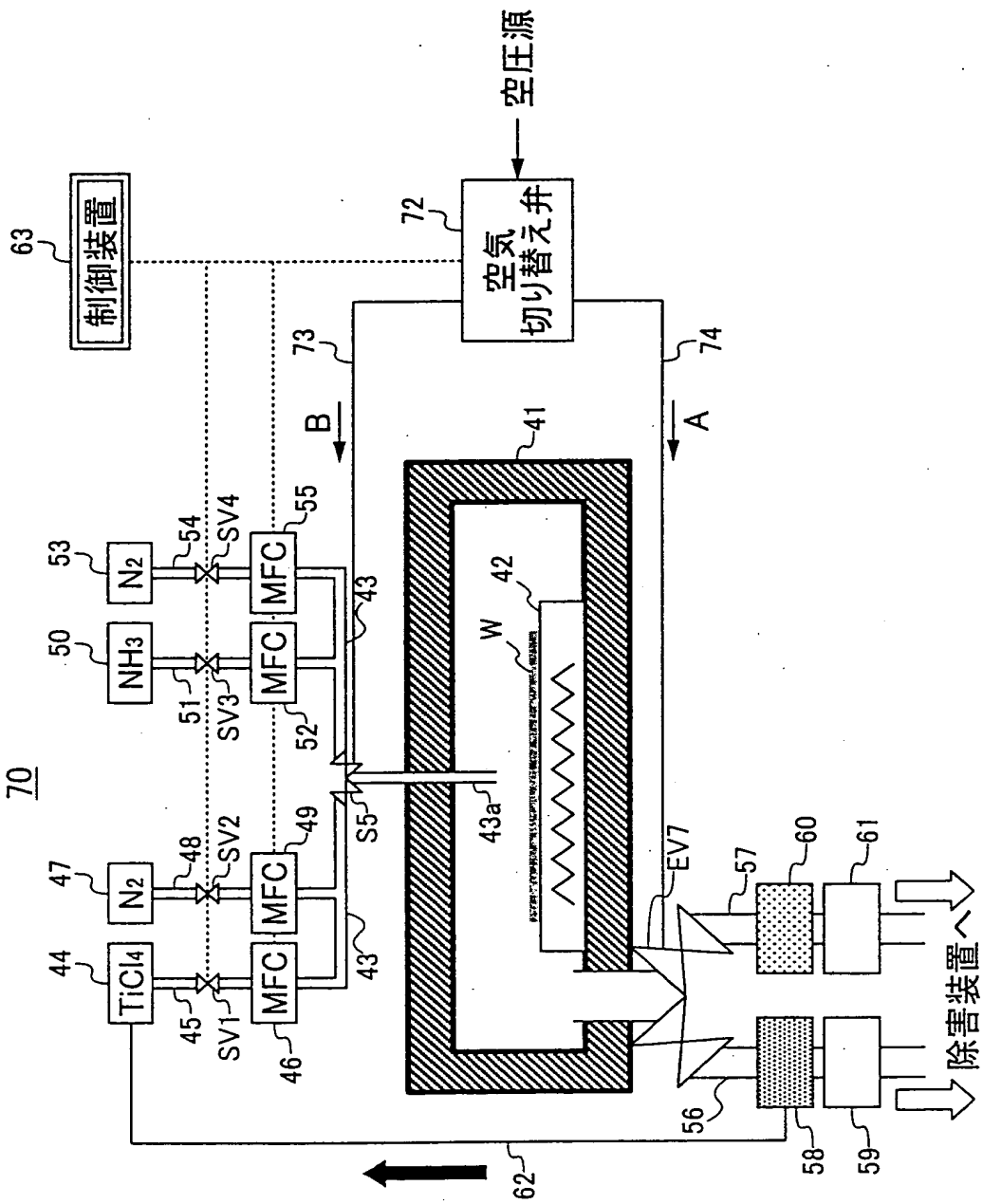
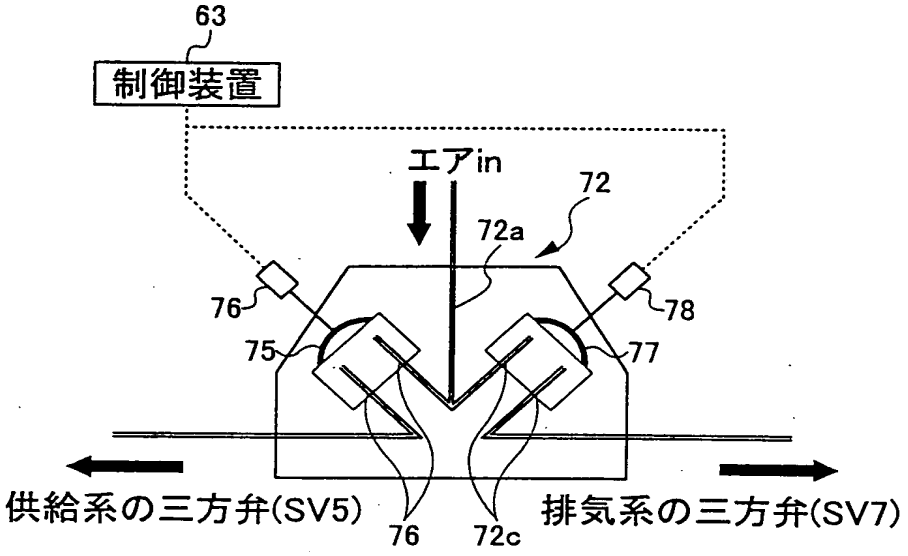
59
60
61
62
EV7

【図14】


70
63
制御装置
空圧源
72
空気
切り替え弁
73
74
B
A
41
42
W
43
43a
44
TiCl4
45
SV1
46
MFC
47
N2
48
SV2
49
MFC
50
NH3
51
SV3
52
MFC
53
N2
54
SV4
55
MFC
S5
EV7
56
57
58
59
60
61
62
除害装置へ

【図15】